

REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Claims 1-3 have been amended to clarify the subject matter recited therein and overcome the indefiniteness rejections. The amendments are considered non-narrowing, and no estoppel is deemed to attach thereto. Claims 4 and 5 have been newly added. Support for the subject matter recited in claims 4 and 5 is provided in the original claims and the specification on page 6, line 16, through page 8, line 6.

Claim 1 was rejected, under 35 USC §103(a), as being unpatentable over Zhou et al. (US 5,798,753) in view of Tachiuchi et al. (US 4,839,739). Claims 2 and 3 were rejected, under 35 USC §103(a), as being unpatentable over Zhou in view of Tachiuchi and further in view of Bianchi et al. (US 5,898,509). Applicant respectfully traverses these rejections.

The applied references fail to suggest the features recited in claim 1 of a plurality of image processing means that each convert parallel image data to serial image data based on the frequency of a clock signal outputted from an associated variable frequency generation means. The Office Action proposes that Zhou discloses, in column 7, lines 23-27, converting parallel image data to serial image data (Office Action page 3, first sentence

of last paragraph). However, Zhou appears to disclose performing multiplication, addition, scaling, and clipping operations on data words representing color component information, in the cited portion. These operations bear no similarity to converting parallel image data to serial image data.

The Office Action further proposes that the color image described by Zhou in column 7, lines 23-27, is inherently serial image data since it is output to a single device (Office Action page 3, last sentence of last paragraph). However, the number of communication devices connected to a data bus does not inherently define whether the data bus is a serial or parallel data bus. Both serial and parallel data buses may connect one or more devices to a data source.

From the above discussion, it follows that the Office Action has not established that Zhou teaches a plurality of image processing means that each convert parallel image data to serial image data based on the frequency of a clock signal outputted from an associated variable frequency generation means. And Tachiuchi is not cited in the Office Action to supplement Zhou's teaching on this point.

Accordingly, Applicant submits that the applied references do not teach or suggest the subject matter defined by claim 1.

Independent claim 2 similarly recites the features

distinguishing claim 1 from the applied references. Therefore, allowance of claims 1 and 2, and its dependent claim 3, is warranted.

New claim 4 recites:

*An image processing apparatus comprising:
a plurality of variable frequency generators, each corresponding to a different one of a plurality of development colors, that separately generate clock signals of desired frequencies; and
a plurality of image processors, each corresponding to a respective one of the variable frequency generators, that each convert parallel image data to variable resolution serial image data based on the frequency of the associated clock signal, wherein:
for each image processor, the frequency of the associated clock signal determines the degree of resolution the converted serial image data represents with respect to the corresponding parallel image data.*

The applied references fail to teach or suggest the features recited in claim 4 wherein: (1) each of a plurality of image processors converts parallel image data to variable resolution serial image data based on the frequency of an associated clock signal, such that the frequency determines the degree of resolution the converted serial image data represents with respect to the corresponding parallel image data and (2) each clock signal frequency is determined separately from those used by the other image processors. Moreover, the combined teachings of the applied references would not motivate a skilled artisan to produce the claimed structure, as explained below.

The Office Action proposes, with respect to claim 1, that a skilled artisan would be motivated to combine Tachiuchi's comparator with Zhou's system of parallel processors because: (1) each color processed by an individual one of Zhou's processors has different characteristics and (2) Tachiuchi's comparator affects how image data is converted to binary form in accordance with a unique characteristic of the individual colors (see Office Action paragraph bridging pages 5 and 6). However, whether image data is represented in binary form or the converted image data is better represented by a zero/one value, as opposed to a one/zero value, does not influence the degree of resolution the converted data represents with respect to the original image data. As a result, the Office Action's proposal - that Tachiuchi's comparator affects how image data is converted into binary form in accordance with a characteristic of the associated color - does not suggest the claimed feature whereby, for each of a plurality of image processors, the frequency of a separate clock signal used to convert parallel image data to serial image data determines the degree of resolution the converted serial image data represents with respect to the corresponding parallel image data.

Bianchi is cited in the Office Action for disclosing that a weakest channel determines the overall cycle time (Office Action

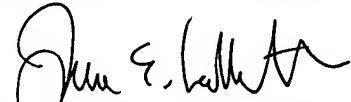
page 10, third paragraph). This disclosure does not supplement those of Zhou and Tachiuchi with respect to the above described features of claim 4.

Accordingly, Applicant submits that the applied references do not disclose or suggest the subject matter defined by claim 4. Therefore, allowance of claim 4 and dependent claim 5 is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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JEL/DWW/att

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